

RAB7A Protein, Rat (His)

Cat. No.:	HY-P75998
Synonyms:	Ras-related protein Rab-7a; Ras-related protein BRL-RAS; RAB7A; RAB7
Species:	Rat
Source:	E. coli
Accession:	P09527 (M1-C207)
Gene ID:	29448
Molecular Weight:	Approximately 25.7 kDa

PROPERTIES

Appearance	Solution
Formulation	Supplied as a 0.2 µm filtered solution of PBS, 10% Glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

RAB7A, a small GTPase, undergoes dynamic cycling between its active GTP-bound and inactive GDP-bound states, exerting multifaceted control over endo-lysosomal trafficking. In its active state, RAB7A engages with various effector proteins, influencing early-to-late endosomal maturation, microtubule-directed endosomal migration, and endosome-lysosome transport through intricate protein-protein interactions. Beyond its central role in endosomal traffic, RAB7A significantly impacts diverse cellular and physiological processes, including growth-factor-mediated cell signaling, nutrient-transporter-mediated nutrient uptake, neurotrophin transport in neuronal axons, and lipid metabolism. Moreover, it participates in specialized endosomal membrane trafficking events such as melanosome maturation, pathogen-induced phagosomes, and autophagosomes. RAB7A is pivotal in the maturation, acidification, and fusion of phagosomes with lysosomes, crucial for handling microbial pathogens. Its involvement extends to microbial pathogen infection and survival, influencing the life cycles of various viruses. Additionally, RAB7A collaborates with RAC1 to regulate the formation of ruffled borders in osteoclasts and plays roles in neurite outgrowth signaling, EGF-EGFR complex trafficking, ADRB2-stimulated lipolysis through lipophagy, exosomal release of specific proteins, cell surface expression of ACE2, and potentially in PRPH neuronal intermediate filament assembly.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA